

## **REMARKS/ARGUMENTS**

Claims 1-20 are pending in the present application. Claims 13 and 15 are cancelled; claims 1, 9, 10, 11 and 16 are amended. Support for the claim amendment can be found in the as-filed claims. Reconsideration of the claims is respectfully requested.

### **I. Objection to Claims: Claims 9-15**

The examiner has stated that claims 9-15 were objected to as containing various informalities. Claim 9 has been amended appropriately, thus overcoming the objection.

### **II. 35 U.S.C. § 101: Claims 9-15**

The examiner has rejected claims 9-15 under 35 U.S.C. § 101 as being directed towards non-statutory subject matter. This rejection is respectfully traversed.

The rejection is incorrect in view of new guidelines covering patentability of claims directed to a process in a computer readable medium. The USPTO guidelines for evaluating computer-readable medium encoded with functional descriptive material, such as a computer program, expressly states that a claim to such computer-readable medium when so encoded is statutory subject matter. USPTO, *Interim Guideline for Examination of Patent Application for Patent Subject Matter Eligibility* (26 Oct. 2005) (hereinafter “The Guideline”). The Guideline provides, in relevant part:

“[A] claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure’s functionality to be realized, and is thus statutory.”

*Id.*, p. 52. The Guideline further provides:

Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. O’Reilly, 56 U.S. (15 How.) at 112-14. Moreover, it does not appear that a claim reciting a signal encoded with functional descriptive material falls within any of the categories of patentable subject matter set forth in § 101.

...

These interim guidelines propose that such signal claims are ineligible for patent protection because they do not fall within any of the four statutory classes of § 101. Public comment is sought for further evaluation of this question.

*Id.*, pp. 55-56. Claim 9 is as follows:

9. A computer program product in a recordable-type medium for performing handwriting recognition comprising:  
first instructions for displaying a collection area in a computer interface;

second instructions adapted to determine a start point and an end point of a stroke input into the collection area;

third instructions, responsive to determining the start point and the end point, for calculating a stroke parameter set describing at least one attribute of the stroke;

fourth instructions for transmitting the stroke parameter set to a server concurrently with user input of a subsequent stroke; and

fifth instructions for receiving a candidate character from the server, wherein the candidate character is based on the stroke parameter set.

Claims 9-15 are directed to a computer program product in a recordable-type medium. As the Guideline provides, “a computer readable medium with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure’s functionality to be realized” is statutory. Because claims 9-15 recite a computer program product in a recordable-type medium, along with the other recited steps, claims 9-15 describe a data structure that defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure’s functionality to be realized. Thus, claims 9-15 are patentable subject matter under 35 U.S.C. § 101, as explained under the Guideline.

In addition, the instant claims do not recite software per se. Rather, the claims recite a “recordable-type medium” in which a computer program product is embedded. Claims 9-15 claim functional descriptive material encoded on a recordable-type medium and does not claim software per se. For this reason, claims 9-15 thus fall under allowable statutory matter under 35 U.S.C. § 101. This assertion is fully supported by the specification that provides:

Examples of computer readable media include *recordable-type media*, such as a floppy disk, a hard disk drive, a RAM, CD-ROMs, DVD-ROMs, and transmission-type media, such as digital and analog communications links, wired or wireless communications links using transmission forms, such as, for example, radio frequency and light wave transmissions. The computer readable media may take the form of coded formats that are decoded for actual use in a particular data processing system.

Specification, p. 33, ll. 10-19 (emphasis supplied).

The specification and claims 9-15 are statutory subject matter because the claims are directed towards the *medium*, and not to any signal that may inherently be *used* in such media technologies. Additionally, the specification distinguishes between transmission-type media and recordable-type media, as described above. Encoding or recording the computer program on to a medium does not render the medium itself nonstatutory.

Thus, based on the MPEP and applicable case law, claims 9-15 are statutory under 35 U.S.C. § 101. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 9-15 under 35 U.S.C. § 101.

### III. 35 U.S.C. § 102, Anticipation: Claims 9-11 and 14-15

The examiner rejected claims 9-11 and 14-15 under 35 U.S.C. § 102 as anticipated by *Ito et al.*, Character Input Apparatus/Method and Computer-Readable Storage Medium, U.S. Patent No. 6,694,056 (February 17, 2004) (hereinafter “*Ito*”). This rejection is respectfully traversed.

A prior art reference anticipates the claimed invention under 35 U.S.C. § 102 only if every element of a claimed invention is identically shown in that single reference, arranged as they are in the claims. *In re Bond*, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990). All limitations of the claimed invention must be considered when determining patentability. *In re Lowry*, 32 F.3d 1579, 1582, 32 U.S.P.Q.2d 1031, 1034 (Fed. Cir. 1994). Anticipation focuses on whether a claim reads on the product or process a prior art reference discloses, not on what the reference broadly teaches. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 218 U.S.P.Q. 781 (Fed. Cir. 1983). In this case each and every feature of the presently claimed invention is not identically shown in the cited reference, arranged as they are in the claims.

The Applicants have amended claim 9. As amended, claim 9 recites:

9. A computer program product in a recordable-type medium for performing handwriting recognition comprising:
- first instructions for displaying a collection area in a computer interface;
  - second instructions adapted to determine a start point and an end point of a stroke input into the collection area;
  - third instructions, responsive to determining the start point and the end point, for calculating a stroke parameter set describing at least one attribute of the stroke;
  - fourth instructions for transmitting the stroke parameter set to a server concurrently with user input of a subsequent stroke; and
  - fifth instructions for receiving a candidate character from the server, wherein the candidate character is based on the stroke parameter.

Support for the claim amendments can be found in as-filed claim 1. On page 7 of the present Office Action, the examiner admits the following:

However, *Ito et al* does not disclose the transmitting of the stroke parameter to a server, and receiving a candidate character from the server as recited in claim 1.

Office Action dated May 8, 2007, p. 7.

Because *Ito* does not teach the features of “transmitting of the stroke parameter to a server,” and “receiving a candidate character from the server,” now incorporated into claim 9, *Ito* does not anticipate claim 9. Furthermore, each of claims 10, 11, 14 and 15 depend from claim 9, and the features therein are incorporated into the dependent claims. Therefore, the rejection of claims 9-11 and 14-15 under 35 U.S.C. § 102 has been overcome.

**IV. 35 U.S.C. § 103, Obviousness: Claims 1, 3-4, 6-8, 16-17 and 19-20**

The examiner rejected claims 1, 3-4, 6-8, 16-17 and 19-20 under 35 U.S.C. § 103 as obvious over *Ito* in view of *Bryborn et al.*, Electronic Pen and Method for Recording of Handwritten Information, U.S. Patent Publication No. 2003/0107558 A1 (June 12, 2003) (hereinafter “*Bryborn*”). This rejection is respectfully traversed. The examiner states:

One skilled in the art would have clearly recognized that the server comprises a transceiver for wireless communication with pen via the link and WAN interface (for example network) to be connected to wide area network (paragraph [0047], line 21-24), where one possible application, is one in which the input via the pen movement (pointing device) added with an email message (for example web page downloaded from the server via a network or wireless) (paragraph [0047], line 13-16). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to add the system of *Bryborn et al.* which comprises a server a network or wireless in the system of *Ito et al.* because such feature will allowed to download the information or web page from the server into a central computer via a network or wireless and different person in different location may have the access to the information via the internet for example.

Office Action dated May 8, 2007, p. 9, l.12 –p.10, l. 2.

The examiner bears the burden of establishing a *prima facie* case of obviousness based on prior art when rejecting claims under 35 U.S.C. § 103. *In re Fritch*, 972 F.2d 1260, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992). The scope and content of the prior art are... determined; differences between the prior art and the claims at issue are... ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or non-obviousness of the subject matter is determined. *Graham v. John Deere Co.*, 383 U.S. 1 (1966). Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. *KSR Int'l. Co. v. Teleflex, Inc.*, No. 04-1350 (U.S. Apr. 30, 2007). Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *Id.* (citing *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006)).

To establish a *prima facie* case of obviousness, there must be an apparent reason, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings in the fashion claimed by the application at issue. Additionally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

Claim 1 as amended is as follows:

1. A method in a data processing system for performing handwritten character recognition, the method comprising the computer implemented steps of:
  - responsive to user input to a pointing device entered through a computer interface,
  - identifying a stroke start event and a stroke end event;
  - deriving a stroke parameter from the stroke start event and the stroke end event;
  - transmitting the stroke parameter to a server concurrently with user input of a subsequent stroke; and
  - receiving a candidate character from the server, wherein the candidate character is based on the stroke parameter.

No *prima facie* obviousness rejection against claim 1 as amended because neither *Ito* nor *Bryborn* teach the feature of “transmitting the stroke parameter to a server *concurrently with user input of a subsequent stroke*” (emphasis added). As pointed out above, the examiner admits that *Ito* does not disclose the transmitting of the stroke parameter to a server. Therefore, *Ito* can not teach “transmitting the stroke parameter to a server *concurrently with user input of a subsequent stroke.*”

Nevertheless, the examiner does cite the following portion of *Bryborn* regarding this claimed feature.

A preferred embodiment of a system for electronic recording of handwritten or hand-drawn information is shown in FIG. 1. The system uses an electronic pen 10 which will be described in more detail with reference to FIGS. 2 and 4. When the user moves the pen 10 in desired pen movements 1 across a writing base, *the pen movements are recorded as a plurality of digital pen strokes which are stored locally in the pen in order to await subsequent transmission to a server 5* via a wireless communication link 4. To permit this recording, the writing base is provided with a position-coding pattern 20 which will be described in more detail with reference to FIG. 3. One possible application, among a large number of such applications, is one in which the graphical information input via the pen movements 1 is added to or enclosed with an e-mail message 6 which is transmitted via a wide area network 7 (WAN), for example the Internet, to a receiving computer 8 nominated by the person using the pen. For this purpose, the server according to FIG. 4 comprises a main processor (CPU) 27, a working memory (RAM) 28 connected thereto, a secondary memory 29, a transceiver 26 for wireless communication with the pen 10 via the link 4, and a WAN interface 30 (for example a network card and/or other necessary equipment to be connected to the wide area network 7). In addition to storing the normal operating system, the secondary memory 29 also stores application software consisting of a set of program instructions which, when loaded into the working memory 28, can be executed by the main processor 27 in order to carry out the methods according to the invention described below.

*Bryborn*, paragraph [0047] (emphasis added).

*Bryborn* discloses an electronic pen for recording handwritten information. Pen strokes are stored within an internal memory on the pen until a current session is finished. As is made clear from the passage cited by the examiner, “*the pen movements are recorded as a plurality of digital pen strokes which are stored locally in the pen in order to await subsequent transmission to a server....*” *Bryborn*

does not teach, in the cited passage or elsewhere, that a stroke parameter is transmitted to the server concurrently with the entry of a subsequent stroke entry. By transmitting strokes to the server as they occur, the method of Applicants' claim 1 eliminates characters from the possible candidate characters before a user completes entry of the handwritten character. This allows the embodiment of claim 1 to determine characters faster than would otherwise be possible if the entirety of stroke parameters were "recorded as a plurality of digital pen strokes which are stored locally in the pen in order to await subsequent transmission to a server," as taught by *Bryborn*. Thus, *Bryborn* does not teach or suggest this claimed feature.

Because neither *Ito* nor *Bryborn* teach the feature of, "transmitting the stroke parameter to a server *concurrently with user input of a subsequent stroke*," no *prima facie* obviousness rejection can be stated against claim 1 in view of a combination of *Ito* and *Bryborn*. Therefore, the rejection of claim 1 under 35 U.S.C. § 103 has been overcome. Claims 9 and 16 have been similarly amended. Thus, the rejection of claims 9 and 16 has therefore also been overcome.

Claims 3-4 and 6-8 depend from claim 1. Claims 17 and 19-20 depend from claim 16. Therefore, at least by virtue of their dependency from claims 1 and 16, the combined references of *Ito* in view of *Bryborn* do not teach each feature of claim 3-4, 6-8, 17 and 19-20. Therefore, the rejection of claims 3-4, 6-8, 17 and 19-20 under 35 U.S.C. § 103 has been overcome.

#### V. **35 U.S.C. § 103, Obviousness: Claim 2**

The examiner rejected claim 2 under 35 U.S.C. § 103 as obvious over *Ito*, *Bryborn*, and *Kannan* et al., System to Service Processor Interface for a Tablet Computer, U.S. Patent No. 5,329,625 (July 12, 1994) (hereinafter "*Kannan*"). This rejection is respectfully traversed. The examiner states:

One skilled in the art would have clearly recognized that a pen or stylus (pointing device) form the primary input/output means for entering information into and getting out of the computer (column 2, line 54-57), and the stylus comprises a movable tip which is working as the follow: depression of movable tip (switch closed) and a release of movable tip (switch open) (column 3, line 1-7). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to add the system of *Kannan* et al., where the stylus (pointing device) comprises depression and release of the moving tip, in the system of *Ito* et al., which comprises a stroke start event and a stroke end event, because such feature requires a high precision digitizer and the use of the moving tip (depression and release of pointing device) will make the handwriting recognition faster while permitting digitization to be done rapidly and in an efficient manner.

Office Action dated May 8, 2007, p. 14, l. 19-p.15, l. 8.

The combination of *Ito* in view of *Bryborn* does not render claim 2 obvious, because neither *Ito* nor *Bryborn* teach the feature of "transmitting the stroke parameter to a server *concurrently with user*

*input of a subsequent stroke*” (emphasis added), contained within the independent claim from which claims 5 and 18 depend. Furthermore, *Kannan* does not cure this deficiency of *Ito* in view of *Bryborn*. *Kannan* teaches a digitizing tablet in a distributed computing environment, wherein commands into the tablet are initiated and concluded by the depression and release of the tip of an associated stylus. However, *Kannan* does not overcome the above identified deficiency of *Ito* in view of *Bryborn* – namely, *Kannan* does not teach “transmitting the stroke parameter to a server *concurrently with user input of a subsequent stroke*.”

Because none of *Ito*, *Bryborn*, or *Kannan* teaches the features “transmitting the stroke parameter to a server *concurrently with user input of a subsequent stroke*,” no *prima facie* obviousness rejection can be stated in view of a combination of *Ito*, *Bryborn*, and *Kannan*. Therefore, the rejection of claim 2 under 35 U.S.C. § 103 has been overcome.

#### VI. **35 U.S.C. § 103, Obviousness: Claims 5 and 18**

The examiner rejected claims 5 and 18 under 35 U.S.C. § 103 as obvious over *Ito*, *Bryborn*, and *Ilan* et al., Handwritten Pattern Recognizer with Selective Feature Weighting, U.S. Patent No. 6,023,529 (February 8, 2000) (hereinafter “*Ilan*”). This rejection is respectfully traversed. The examiner states:

One skilled in the art would have clearly recognized that some parameters include the relative length of the stroke (column 2, line 12) from pen down to the first features of interest, such as a sharp angle change (column 2, line 13), and the centers which is defined as the center of the distance between the two strokes (column 6, line 41-43). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the system of *Ilan* et al., where the stroke parameter includes a stroke length, stroke angle and stroke center, in the system of *Ito* et al., because such feature can be used in the system for recognizing handwritten patterns, such as letters, numbers, and signatures. For example, the difference between U and V is the angle of the letter (column 3, line 61-62), the same for Y and W, Y has one sharp angle change, where W has three sharp angle changes.

Office Action dated May 8, 2007, p. 16, ll. 1-11.

The combination of *Ito* in view of *Bryborn* does not render claims 5 and 18 obvious because neither *Ito* nor *Bryborn* teach the feature of “transmitting the stroke parameter to a server *concurrently with user input of a subsequent stroke*” (emphasis added), contained within the independent claim from which claims 5 and 18 depend. Furthermore, *Ilan* does not cure this deficiency of *Ito* in view of *Bryborn*. *Ilan* teaches a handwriting recognition system wherein a pattern match determiner produces match values for each parameter of an input pattern. Based on the match values for each parameter, the pattern match determiner produces an overall match value. A pattern classifier then selects a reference pattern whose parameter set most closely matches the overall matching value. However, *Ilan* does not overcome the

above identified deficiency of *Ito* in view of *Bryborn* – namely, *Ilan* does not teach “transmitting the stroke parameter to a server *concurrently with user input of a subsequent stroke*.”

Because none of *Ito*, *Bryborn*, or *Ilan* teaches the features “transmitting the stroke parameter to a server *concurrently with user input of a subsequent stroke*,” no *prima facie* obviousness rejection can be stated in view of the combination of *Ito*, *Bryborn*, and *Ilan*. Therefore, the rejection of claim 2 under 35 U.S.C. § 103 has been overcome.

## **VII. 35 U.S.C. § 103, Obviousness: Claims 12 and 13**

The examiner rejected claims 12 and 13 under 35 U.S.C. § 103 as obvious over *Ito* in view of *Ilan*. This rejection is respectfully traversed. The examiner states:

One skilled in the art would have clearly recognized that some parameters include the relative length of the stroke (column 2, line 12) from pen down to the first features of interest, such as a sharp angle change (column 2, line 13), and the centers which is defined as the center of the distance between the two strokes (column 6, line 41-43). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the system of *Ilan* et al., where the stroke parameter includes a stroke length, stroke angle and stroke center, in the system of *Ito* et al., because such feature can be used in the system for recognizing handwritten patterns, such as letters, numbers, and signatures. For example, the difference between U and V is the angle of the letter (column 3, line 61-62), the same for Y and W, Y has one sharp angle change, where W has three sharp angle changes.

Office Action dated May 8, 2007, p. 18, ll. 1-11.

As pointed out above, the examiner admits that *Ito* does not disclose the transmitting of the stroke parameter to a server; thus, *Ito* can not teach “transmitting the stroke parameter to a server *concurrently with user input of a subsequent stroke*.” *Ilan* does not overcome this deficiency. *Ilan* teaches a handwriting recognition system wherein a pattern match determiner produces match values for each parameter of an input pattern. Based on the match values for each parameter, the pattern match determiner produces an overall match value. A pattern classifier then selects a reference pattern whose parameter set most closely matches the overall matching value. However, *Ilan* does not overcome the above identified deficiency of *Ito* - namely, *Ilan* does not teach “transmitting the stroke parameter to a server *concurrently with user input of a subsequent stroke*.”

Because neither *Ito* nor *Ilan* teaches the features “transmitting the stroke parameter to a server *concurrently with user input of a subsequent stroke*,” no *prima facie* obviousness rejection can be stated in view of the proposed combination of *Ito* and *Ilan*. Claims 12 and 13 depend from claim 9, and the features of claim 9 are incorporated into claims 12 and 13. Therefore, at least by virtue of their



dependency from claim 9, the combination of *Ito* in view of *Ilan* does not teach each feature of claims 12 and 13. Therefore, the rejection of claims 12 and 13 under 35 U.S.C. § 103 has been overcome.

#### **VIII. Conclusion**

The subject matter of the present application is patentable over the cited references and is now in condition for allowance. The examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

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Respectfully submitted,

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